



## X-Plain™ Osteoarthritis

### Reference Summary

Osteoarthritis is a common disease that affects about 20 million Americans and is the #1 cause of disability in America. Osteoarthritis, also called degenerative arthritis, results from wear and tear on the joints. This reference summary explains what osteoarthritis is and how it affects the joints. Diagnosis and available treatment options are also reviewed.



#### Anatomy

Our bones help us stand up straight and our muscles help our bones move. Bones connect at the joints. The most obvious joints are the shoulders, elbows, wrists, hips, knees, and ankles. We have other joints between the bones of the fingers and toes. There are also joints that allow the vertebrae to move.

A material called cartilage, which keeps bones from rubbing against each other during motion, covers the ends of the 2 bones in a joint.

There is a small bag called the *synovium* that holds synovial fluid between the 2 pieces of cartilage.

The combination of cartilage and synovial fluid allows for smooth, painless motion in joints.

#### Arthritis

The word *arthritis* comes from Greek and means joint inflammation. Inflammation is a normal bodily reaction to injury or disease.

Inflammation is usually temporary, but in the case of joint inflammation, it can have permanent effects.

Arthritis happens when disease or damage causes a joint to become inflamed.

There are more than 100 types of arthritis.

Osteoarthritis is the most common type of arthritis. It can affect any joint in the body and develops from wear and tear on a joint.

Another type of arthritis is called rheumatoid arthritis.

Arthritis usually leads to pain and limited movement of the joint.

#### Symptoms & Causes

Over time, as a joint moves, cartilage deteriorates and its smooth surface becomes rough.



As cartilage wears down, bone rubs on bone, damaging the bones and causing pain. Sometimes new bone grows along the side of existing bones, creating bone spurs that are painful. When arthritis is very severe, both bones of the joint may grow into each other causing the bones to fuse together. The joints most commonly affected by osteoarthritis include:

- the joints between the fingers
- the joints between the vertebrae
- hips
- knees
- wrists

Osteoarthritis pain ranges from mild discomfort to unbearable pain. Pain, deformity, or both can cause disability. Osteoarthritis can cause the spine to curve abnormally, a condition known as scoliosis. The nerves or spinal cord may become pinched due to osteoarthritis as well.

Osteoarthritis not only causes pain, but can cause swelling and stiffness of the joint. Bony lumps are common, they are mainly seen on the finger joints.

Pain, swelling, stiffness and bony spurs can cause decreased flexibility in affected joints. Osteoarthritis pain may happen during or after the joint is used. It may also worsen during weather change. Osteoarthritis pain may disappear within a year of when it starts. However, it may return if the joint is overused.

Deformity is another of the many symptoms of osteoarthritis.

### **Risk Factors**

The following groups of people are at higher risks of developing osteoarthritis.

- People older than 45 years old
- Females and obese people.
- People with family history of osteoarthritis.
- People with other types of arthritis, such as gout or rheumatoid arthritis

### **Diagnosis**

If you have swelling, stiffness, or pain in one of your joints that lasts longer than 2 weeks, you should see your doctor. To diagnose osteoarthritis, the doctor will perform a physical examination and a variety of diagnostic tests, such as blood tests. X-rays and various radiological scans are very useful to find out the condition of the joints. Your doctor may order X-rays, bone scans, a CT scan, an MRI, or an arthrography.

These radiologic images help the doctor find bone spurs and worn-down cartilage. Sometimes the doctor may recommend that fluid be taken from the joint and tested to confirm the diagnosis.

### **Treatment**

Unfortunately there is no cure for osteoarthritis. The disease can be slowed down and controlled with various medications that decrease inflammation in the body. Some osteoarthritis medications are common, over-the-counter anti-inflammatory medications such as ibuprofen or aspirin.

Stronger medications may be needed; these include various types of steroid medications. Steroids can be very effective, however, they have many potential side effects.

Steroids should be taken as prescribed, and should never

be stopped without first discussing it with a doctor. In order to keep the affected joints in shape, physical therapy may also be used to treat osteoarthritis.

Splints are used to help prevent, slow down or compensate for joint deformities.

If all attempted treatment fails, surgery may be necessary to fuse, replace, or stop deformation in joints.

For example, a flail wrist could make the wrist useless, but if surgically fused together, the hand could be useful again.

Hip and knee replacement are routine operations that may help alleviate the pain and increase the patient's mobility.

Sometimes surgery is needed to take the pressure off the spinal cord or nerves in the spine.

### **Summary**

Osteoarthritis is a fairly common disease.

Recent medical and surgical advances have helped greatly in slowing this disease and preventing major disability.

Treatment can help osteoarthritis. A positive attitude and staying active also help in improving osteoarthritis conditions!